

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
13 October 2005 (13.10.2005)

PCT

(10) International Publication Number
WO 2005/096440 A1

(51) International Patent Classification⁷: **H01R 4/68**,
H01L 39/24

(21) International Application Number:
PCT/IB2004/001013

(22) International Filing Date: 31 March 2004 (31.03.2004)

(25) Filing Language: English

(26) Publication Language: English

(71) Applicant (for all designated States except US): **COUNCIL OF SCIENTIFIC AND INDUSTRIAL RESEARCH** [IN/IN]; Rafi Marg New Delhi 110 001 (IN).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **EKBOTE, Shrikant** [IN/IN]; National Physical Laboratory, K.S. Krishnan Marg, New Delhi 110 012 (IN). **PADAM, Gursharan, Kaur** [IN/IN]; National Physical Laboratory, K.S. Krishnan Marg, New Delhi 110 012 (IN). **ARORA, Narendra, Kumar** [IN/IN]; National Physical Laboratory, K.S. Krishnan Marg, New Delhi 110 012 (IN). **SHARMA, Mukul** [IN/IN]; National Physical Laboratory, K.S. Krishnan Marg, New Delhi 110 012 (IN). **SETHI, Ramesh** [IN/IN];

National Physical Laboratory, K.S. Krishnan Marg, New Delhi 110 012 (IN). **BANERJEE, Mrinal, Kanti** [IN/IN]; National Physical Laboratory, K.S. Krishnan Marg, New Delhi 110 012 (IN).

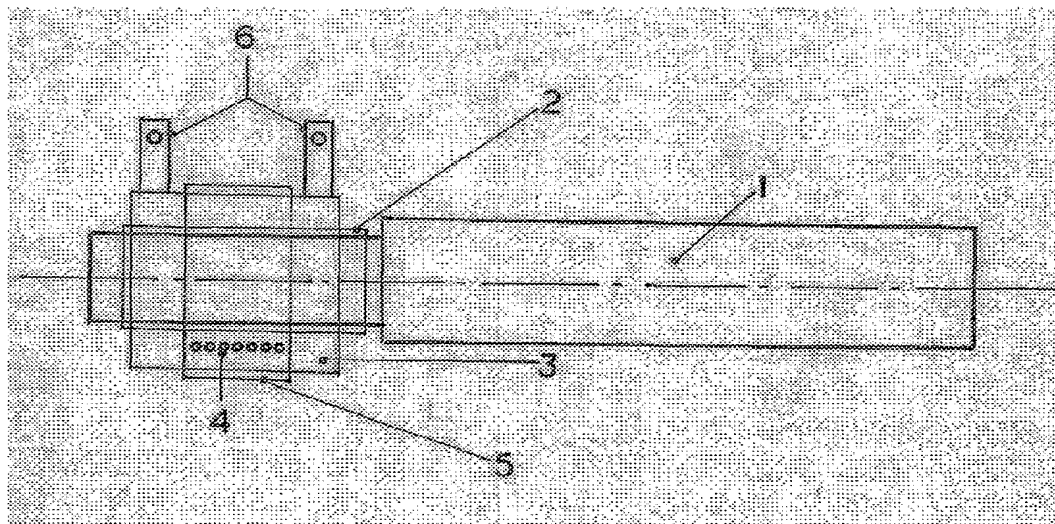
(74) Agents: **SUBRAMANAM, Hariharan, , et al.**; Subramaniam, Nataraj & Associates, E-556, Greater Kailash-II, New Delhi, 110-048 (IN).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR,

[Continued on next page]

(54) Title: PROCESS FOR THE PREPARATION OF LOW CONTACT RESISTANCE CONTACT ON A HIGH TRANSITION TEMPERATURE SUPERCONDUCTORS



(57) Abstract: Disclosed is a three layer process for making contact points to a high transition temperature superconductor (HTSC), particularly to $(\text{Bi,Pb})_2\text{Sr}_2\text{Ca}_2\text{Cu}_3\text{O}_{1.9+x}$ with and without silver in the superconductor. The contact structure is a three layer configuration with a perforated silver foil (3) sandwiched between two metal spray gun deposited silver layers (2,5) and subsequent heat treatment in air. The contact has been made on tubes and rods (1). The silver contacts are capable of carrying a continuous current of 200 Amps without adding any substantial heat load to the cryogen used to cool the HTSC. The contact resistance at 4.2 K is in the range of 1.5×10 (hoch⁻⁸) to 8.5×10 (hoch⁻⁸) OHM in zero applied filed.

WO 2005/096440 A1



GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

Published:

— *with international search report*